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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/028,792      | 12/28/2001  | Takashi Amano        | 217878US2S          | 3081             |

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EXAMINER

CHEN, SHIH CHAO

ART UNIT PAPER NUMBER

2821

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/028,792

Applicant(s)

AMANO ET AL.

Examiner

Shih-Chao Chen

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following informalities: on page 17, line 22, "the linear antenna element 124" should be changed to -- the linear antenna element 123--.

Appropriate correction is required.

### ***Claim Objections***

4. Claim 1 is objected to because of the following informalities: "a mobile terminal circuit section" in line 13 should be changed to --said mobile terminal circuit section--.

Appropriate correction is required.

5. Claim 4 is objected to because of the following informalities: "to mach" in line 18 should be changed to --to match--. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 1 recites the limitation "said matching circuit" in line 16. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 4 recites the limitation "said matching element" in line 24. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 13 recites the limitation "the second antenna pattern" in line 23. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 13 recites the limitation "said matching circuit" in line 23. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

13. Claims 1 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Suguro et al. (US Pub. No. 2002/0008663).

Regarding claim 1, Suguro et al. teaches in figures 1-16 an antenna structure [1] arranged in a mobile terminal having a body [9] including a holding section configured to hold an antenna structure [1] and a mobile terminal circuit section [6] housed in the body, comprising: a first flexible substrate [4] mounted within the holding section; a meander-shaped antenna pattern [3] (See FIG. 3(K)) formed on the flexible substrate [4]; a matching circuit element [1a] configured to substantially match the impedances of the antenna pattern [3] and the mobile terminal circuit section [6]; and a capacitive coupling element [2] configured to achieve a capacitive coupling (See FIG. 5(b)) between the antenna pattern [3] and the matching circuit element [1a].

Regarding claim 13, Suguro et al. teaches in figures 1-16 a mobile terminal, comprising: a flexible substrate [4]; a body [9] including a housing section for housing the flexible substrate [4], the housing section (See FIG. 1) protruding from the the body [9] along a first reference axis; an antenna pattern [4] formed on the flexible substrate, the antenna pattern [3] extending in a meandering fashion along a second reference axis, and the first and second reference axes forming an angle falling within a range of between 45 degree and 90 degree; a mobile terminal circuit [6] housed in the body [9] and configured to receive and transmit a mobile terminal signal through the antenna pattern [3]; a matching circuit element [1a] configured to substantially match the impedances of the antenna pattern [3] with the impedance of the mobile terminal circuit

section [6]; and a capacitive coupling element [2] configured to couple the antenna pattern [3] with the matching circuit element [1a].

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 4, 6-8, 10-12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suguro et al. (Cited above) in view of Wass (U.S. Patent No. 6,069,592).

Suguro et al. teaches every feature of the claimed invention except for an antenna element extending substantially linearly.

Wass teaches in figures 1-10 an antenna element [5] extending substantially linearly.

Since one of ordinary skill in the art would have recognized the benefit of various alterations and modifications in order to provide a hand-portable telephone having at least one radiating element that has a meandering and cylindrical configuration in combination with an extendable and retractable whip antenna (See Abstract), it would have been obvious to provide Suguro et al. with for an antenna element extending substantially linearly as taught by Wass.

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suguro et al. (Cited above)

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Regarding claim 14, it would have been an obvious matter of design choice to have the angle is substantially equal to 60 degree, since such a modification would have involved a mere change in degree of the first and second reference axes. A change in degree is generally recognized as being within the level ordinary skill in the art.

***Allowable Subject Matter***

17. Claims 2-3 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

18. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose or fairly suggest the matching circuit element and the capacitive coupling element are formed on the flexible as required by claims 2, 5 and 9.

The prior art does not disclose or fairly suggest a second flexible substrate arranged within the holding section, the matching circuit element being formed on the second flexible substrate and the capacitive coupling element being formed between the first and second flexible substrates as required by claim 3.

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**Correspondence**

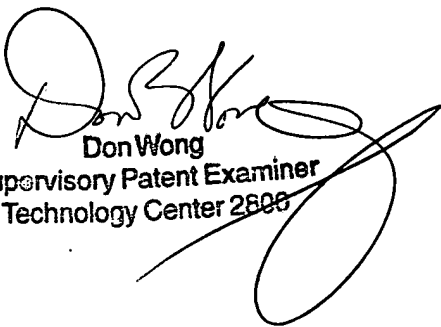
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-Chao Chen whose telephone number is (703) 306-2721. The examiner can normally be reached on Monday-Friday from 7 AM to 4:30 PM, First Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Shih-Chao Chen  
Examiner  
Art Unit 2821

SXC  
November 5, 2002

  
Don Wong  
Supervisory Patent Examiner  
Technology Center 2800